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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,201	06/27/2001	Jonathan E. Michelson	62191	7094

26327 7590 02/09/2005

THE LAW OFFICE OF KIRK D. WILLIAMS  
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EXAMINER

MURPHY, RHONDA L

ART UNIT	PAPER NUMBER
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2667

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/894,201	<b>Applicant(s)</b> MICHELSON ET AL.	
	<b>Examiner</b> Rhonda Murphy	<b>Art Unit</b> 2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-15 and 22-30 is/are allowed.
- 6) ☒ Claim(s) 1-9 and 16-21 is/are rejected.
- 7) ☒ Claim(s) 31 and 32 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/30/02</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 31-32 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-9 and 16-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Dally (US 2001/0033569).

**Regarding claims 1 and 16**, Dally teaches an apparatus for sending a plurality of ordered sets of data, the apparatus comprising: means for identifying a barrier phase transition (page 3, paragraphs 44 – 45; the middle stage switch propagates a prepare-to-switch (PTS) signal to all stages); means for resetting a current data set indicator for the plurality of ordered sets of data, to a predetermined ordered set of the plurality of ordered sets of data, in response to receiving the barrier phase transition (page 3,

paragraphs 44 – 45 and 48-50; the PTS signal indication propagates through all stages, and each last stage switch passes the PTS indication to the corresponding first stage switch of the network; therefore resetting the data set indicator); means for sending an ordered set of data of the plurality of ordered sets of data indicated by the current data set indicator (page 3, paragraph 47-48; the data is transmitted through the switching stages since the PTS signal is embedded in the data, and forwarded through the switches); and means for advancing the current data set indicator to a next ordered set of data of the plurality of ordered sets of data (page 3, paragraphs 49-50). In reference to claim 1, the apparatus described in claim 16 is used for achieving the method of claim 1.

**Regarding claims 2 and 17,** Dally teaches means for inverting a barrier bit in response to identifying the barrier phase transition (page 3, paragraph 46-47; the second A1 byte of the frame is inverted to signal the PTS is present).

**Regarding claims 3 and 18,** Dally teaches means for sending a start bit indication when the current data set indicator indicates the predetermined ordered set of the plurality of ordered sets of data (page 3, paragraphs 46-47; the PTS signal contains two bits of information that indicates the presence of the signal. One of these bits represents the start bit, which indicates the beginning of the data to be transmitted).

**Regarding claims 4 and 19,** Dally teaches including flow control information in the plurality of ordered sets of data (it would be obvious to one skilled in the art that the two bits of information carried in the PTS signal, which is embedded in the data, comprise

flow control information in order to transmit data to its intended destination with minimal delay or errors; page 3, paragraphs 46-47).

**Regarding claims 5 and 20**, Dally teaches means for adding the ordered set of data to a field of a packet (it would be obvious to one skilled in the art to add data to a field in a packet, since all packets contain fields).

**Regarding claims 6 and 21**, Dally teaches means for maintaining a current barrier state, and means for receiving a new barrier state indication different than the current barrier state (it would be obvious to one skilled in the art to maintain a current state and subsequently change to an alternate state, because it is known for states to change during transitional periods).

**Regarding claims 7 and 8**, Dally teaches a packet switching system and packet switching element performing the method of claim 1. The transmission of frames within the system described by Dally indicates a packet switching system. Hence, Dally indicates packet switching elements transmitting the frames within the packet switching system (Fig. 5).

**Regarding claims 9**, Dally teaches a computer-readable medium containing computer-executable instructions for performing the method of claim 1. It would be obvious to one skilled in the art to include a computer-readable medium in order to process instructions.

***Allowable Subject Matter***

4. Claims 10-15 and 22-30 are allowed.

**Claims 10 and 22** are allowable over the prior art of record since the cited references fail to particularly disclose resetting a current data structure address to a predetermined address within the data structure in response to receiving the barrier bit and receiving the start bit.

**Claims 26-30** are allowable over the prior art of record since the cited references fail to particularly disclose a first barrier accumulator to receive indications of a first subset of a plurality of barrier request messages, to determine when a first barrier request may be sent to the plurality of second elements, and to update the current first barrier state.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

\*Hahn et al. (US 6,061,345) discloses a crossbar routing switch for a hierarchical crossbar interconnection network.

\*Newman (US 5,396,491) discloses a self-routing switching element and fast packet switch.

\*Dally et al. (US 6,285,679) discloses methods and apparatus for event-driven routing.

\*Sriram (US 5,463,620) discloses bandwidth allocation, transmission scheduling, and congestion avoidance in broadband asynchronous transfer mode networks.


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rhonda Murphy whose telephone number is (571) 272-3185. The examiner can normally be reached on Monday - Friday 8:00 - 4:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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